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# Some New Valgid and Cetoniid Beetles (Coleoptera, Scarabaeidae) from Taiwan

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**Abstract** Three new species and one new subspecies of scarabaeid beetles are described from Taiwan. They are: *Valgus okajimai*, *Dasyvalgus shimomurai*, *Protaetia orientalis sakaii*, and *P. kurosawai*.

In this paper, the author will describe two new valgid and two new cetoniid beetles from Taiwan. They belong to the genera *Valgus*, *Dasyvalgus* and *Protaetia*.

Before going further, the author wishes to thank Dr. Shun-Ichi UÉNO for permission to examine the National Science Museum collection, and also to Dr. Shûji OKAJIMA of the Insect Laboratry of Tokyo University of Agriculture, and Messrs. Masahide KUBOTA and Kaoru SAKAI for their kindness in entrusting valuable specimens to the author for investigation. The holotypes designated in this study are deposited in the collection of the Department of Zoology, National Science Museum (Nat. Hist.), Tokyo. Other specimens are preserved in the author's collection.

## *Valgus okajimai* H. KOBAYASHI, sp. nov.

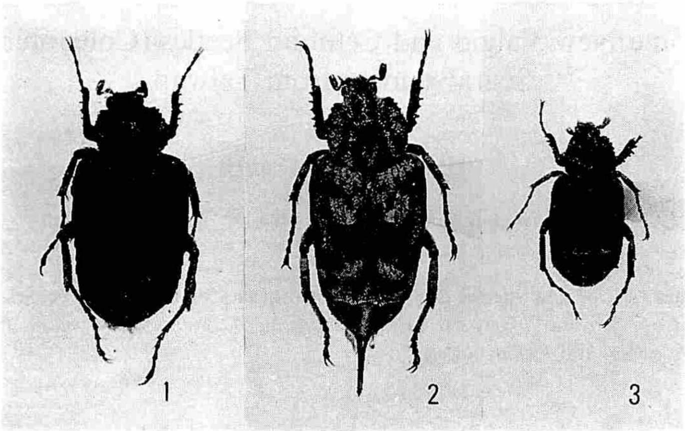
[Japanese name: Okajima-hirata-hanamuguri]

(Figs. 1–2, 4)

*Female.* Elongate in shape, not convex and almost flattened on elytra. Body black with dull lustre; ventral surface somewhat densely covered with grayish brown scales, dorsal surface rather densely covered with grayish brown to yellowish brown scales on basal and apical areas of elytra, with a longitudinal blackish maculation behind the middle of each elytron, propygidium rather sparsely with grayish brown scales, pygidium with a longitudinal maculation of the same color as propygidium, with a long caudal appendage which is dentate near the apex.

Clypeus rather broad, 1.5 times as broad as its length, densely punctate; anterior margin gently sinuate at the middle, bearing suberect hairs. Frons and vertex rather densely punctate, rather densely covered with grayish brown scales near eyes, with several dark reddish brown erect scales in the middle.

Pronotum scarcely broader than its length, densely punctate, the punctures being large and shallow, with two longitudinal ridges at the middle, which are rather convex before the middle but indistinct posteriorly; lateral margins gently curved at middle, strongly crenate in apical halves but indistinctly so behind, anterior angles indistinct,



Figs. 1–3. Habitus. —— 1–2, *Valgus okajimai* sp. nov.; 1, male, 2, female. —— 3. *Dasyvalgus* (*Nipponovalgus*) *shimomurai* sp. nov.

posterior ones rounded, posterior margin gently arcuate, with eight tufts of short hairs which are situated at the middle and near posterior margin. Scutellum elongate triangular, apical angle rounded, rather densely punctate. Elytra finely striate and rather densely punctate inside lateral costa, somewhat rugosely and densely punctate on lateral declivity, lateral costa without tuft of hairs at its posterior end.

Propygidium densely punctate, terminal spiracles hardly elevated, with two small tubercles at the middle. Pygidium not much broader than its length, rather flat, with a small boss-like elevation before caudal appendage. Anterior tibiae sharply 6-dentate, interspace between second and third teeth more widely separated than other ones. First tarsal segment of posterior leg very long, about twice as long as total length of 2nd and 3rd tarsal segments combined.

*Male*. Ventral surface sparsely bearing scales, dorsal surface almost glabrous except for longitudinal blackish maculations on elytra. Propygidium bearing short suberect setae near basal margin, tubercles more prominent, posterior margin gently sinuate. Pygidium sparsely bearing short suberect setae, without boss-like elevation. Interspace between second and third teeth of anterior tibae far apart from the others.

Length: 7.5–10.0 mm (excluding caudal appendage); breadth: 3.5–4.0 mm.

Holotype: ♀, Nanshanchi, Nantou Hsien, 5–III–1970, T. KOBAYASHI leg. Paratypes: 1 ♂, 2 ♀♀, Wulai, Taipei Hsien, 16–III–1985, S. OKAJIMA leg.; 1 ♂, Sungkang, Nantou Hsien, 4–V–1978, T. KOBAYASHI leg.

This species is nearly allied to *V. tonkinensis* ARROW, 1944, but may be separated from the latter by the following points: large-sized body; scale pattern of dorsal surface; basal tarsal segment somewhat short.

## ***Dasyvalgus (Nipponovalgus) shimomurai*** H. KOBAYASHI, sp. nov.

[Japanese name: Shimomura-hirata-hanamuguri]

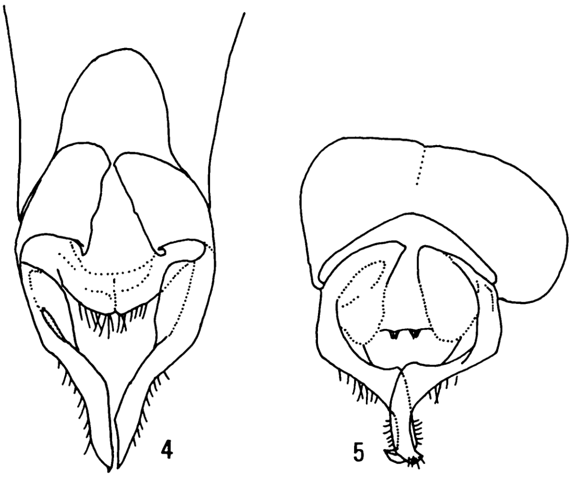
(Figs. 3, 5)

*Female.* Elongate, depressed above. Body reddish brown, rather shining; metasternum bearing sparse grayish brown scales, abdomen bearing very sparse grayish brown scales and scattered with suberect hairs, dorsal surface very sparsely covered with grayish white to yellowish brown scales on elytra, with a pair of round blackish maculation behind scutellum, and with a small tuft of hairs at the end of lateral costa, propygidium and pygidium rather sparsely with grayish white scales, and with a grayish white tubercle at the tip of pygidium, no caudal appendage.

Clypeus rather sparsely punctate; anterior margin gently sinuate at middle, bearing sparse suberect hairs. Frons and vertex rather densely punctate, though almost bare.

Pronotum almost as long as its breadth, rather densely punctate, the punctures being large and shallow, with two longitudinal ridges at the middle, which are rather convex before the middle but indistinct posteriorly; lateral margins gently curved at middle, strongly crenate in apical halves though only vaguely so behind, anterior angles almost rectangular, posterior ones rounded, posterior margin gently arcuate, with eight inconspicuous tufts of hairs which are situated at the middle and near posterior margin. Scutellum broadly triangular, apical angle rounded, rather densely punctate. Elytra finely striate and rather densely punctate inside lateral costa, somewhat largely and densely punctate on lateral declivity, and somewhat strigous in basal area.

Propygidium rather densely punctate, terminal spiracles short and pointed, with two small tubercles at the middle. Pygidium much broader than its length, very



Figs. 4–5. Male genitalia. —— 4, *Valgus okajimai* sp. nov.; 5, *Dasyvalgus* (*Nipponovalgus*) *shimomurai* sp. nov.

convex, with a small but conspicuous hollow on the underside of apex. Anterior tibiae sharply 7-dentate, apical to 3rd teeth large, 4th and 6th rather large, 5th and 7th very small. First tarsal segment of posterior leg rather short, about as long as the total length of 2nd and 3rd tarsal segments combined.

*Male.* Ventral surface bearing very sparse scales; elytra almost glabrous in basal halves, scattered with minute scales behind. Pygidium gently convex, almost bare, covered with dark grayish-white velvety bloom except for basal edges.

Length: 5.0–5.5 mm; breadth: 2.5–3.0 mm.

Holotype: ♂, Ro-shan, Nantou Hsien, 5–V–1973, H. YOKOYAMA leg. Paratypes: 1 ♂, Sulo, near Palin, Taoyuan Hsien, 28–IV–1978, T. SHIMOMURA leg.; 1 ♀, Lushan Spa, Nantou Hsien, 8–V–1975, M. KUBOTA leg.; 1 ♂, Formosa (without detailed data), T. KANO leg.

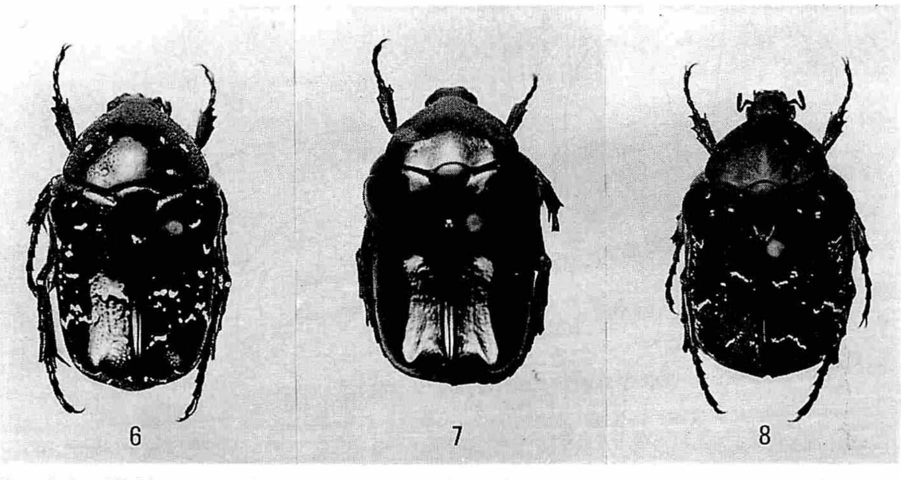
This species is somewhat allied to *D.* (*Nipponovalgus*) *angusticollis* WATERHOUSE, 1875, but it may be separated from the latter by the following points: lateral margins of pronotum strongly crenate in apical half; pygidium covered with dark grayish-white velvety bloom except for basal edges in male.

## ***Protaetia orientalis sakaii*** H. KOBAYASHI, subsp. nov.

[Japanese name: Sakai-shiroten-hanamuguri]

(Fig. 6)

This subspecies may be separated from other geographical races distributed in the adjacent areas by the following points: Body cupreous black and without variation in colour (a type with greenish lustre occurs in the areas surrounding Taiwan, for example, Hongkong, Xiamen and Fuzhou in the Chinese Continent and parts of the Ryukyu



Figs. 6–8. Habitus. —— 6, *Protaetia orientalis sakaii* subsp. nov. —— 7–8. *P. kurosawai* sp. nov.; 7, male, 8, female.

Islands of Japan). Pronotum very faintly punctate in the middle and with a conspicuously longitudinal smooth line at the middle, maculations more evident than in the form distributed in Fujian District, China. Clypeus densely punctate at the base, the punctures gradually becoming sparser to front (almost uniformly punctate in other areas). Elytra more densely, somewhat rugosely punctate on lateral declivity.

Length: 21.0–25.0 mm; breadth: 11.0–12.5 mm.

Holotype: ♂, Puli ("Hori" on the label), Nantou Hsien, 25–VI–1965, T. SHIRÔZU leg. Paratypes: 4 ♂♂, 4 ♀♀, same data as for the holotype; 1 ♂, Kenting Park, Pingtung Hsien, 1–IV–1969, K. TAKAHASHI leg.; 1 ♂, Kenting Park, Pingtung Hsien, 12–VIII–1973, Y. SHIBATA leg.; 1 ♂, 2 ♀♀, Lin-kuo, Taipei Hsien, 16–VIII–1987, K. BABA leg.; 1 ♂, Mt. Senpei, near Liukuei, Kaohsiung Hsien, 31–V–1989, K. BABA leg.; 1 ♀, Liukuei, Kaohsiung Hsien, 1～8–XII–1988, K. BABA leg.

### *Protaetia kurosawai* H. KOBAYASHI, sp. nov.

[Japanese name: Kurosawa-shiroten-hanamuguri]

(Figs. 7–9)

Body cupreous green or dark cupreous black to cupreus black, rather strongly shining on ventral surface; dorsal surface cupreous green and rather shining in male, dark cupreous black and opaque in female, bearing short suberect setae and rather long hairs on pronotum and elytra; prosternum, metasternal wings and hind coxae bearing long tawny grayish hairs. Pronotum with several small grayish white patches on the disc. Elytra with the same coloured small maculations as those of pronotum, which are situated on lateral margins, prediscal area and, middle and posterior juxtasutural margins (pronotal and elytral maculations sometimes inconspicuous). Pygidium with small whitish dots on the disc, though sometimes vanished.

Clypeus rather densely punctate, feebly raised in median part, anterior margin feebly sinuate at the middle, faintly reflexed. Frons rather sparsely punctate, bearing several rather long hairs beside eyes.

Pronotum rather finely and sparsely punctate in female, rather largely and sparsely so in male, with a longitudinal smooth line at the middle, broadest at the base; lateral margins gently curved at middle, convergent to front, completely bordered, anterior angles blunt, posterior ones gently rounded. Scutellum clearly longer than its breadth, impunctate, lateral margins somewhat gouged. Elytra very sparsely punctate in juxtascutellar area, rather densely and finely punctate inside discolateral costa and postdiscal area, sparsely punctate in prediscal area; setae inside discolateral costa rather long and evident, those in other areas rather short; apical sutural angles very blunt.

Pygidium somewhat strigose, especially near apex, margins feebly bordered. Metasternal prosess broader than its length, abruptly expanded to front, anterior margin gently rounded. Metasternum somewhat strigose at the sides, almost impunctate on the disc, with a longitudinal, rather deep sulcus at the middle. Each abdominal sternite almost impunctate or sparsely and roughly punctate at the sides. Anterior tibiae tri-

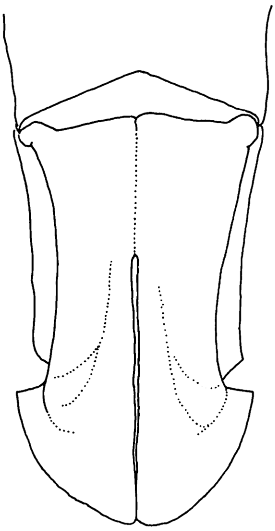


Fig. 9. Male genitalia of *Protaetia kurosawai* sp. nov.

dentate, though the 3rd tooth is blunt and inconspicuous in male. Middle femora bearing long tawny hairs in general. Middle and posterior tibiae densely bearing long yellowish tawny hairs on the inner sides.

Length: 19.0–21.0 mm; breadth: 12.5–13.5 mm.

Holotype: ♂, Puli ("Hori" on the label), Nantou Hsien, VII–1959. Paratypes: 3 ♀♀, same data as for the holotype; 1 ♀, Sungkang ("Tattaka" on the label), Nantou Hsien, 29–VI–1965, Y. KUROSAWA leg.; 2 ♀♀, Liukuei, Kaohsiung Hsien, 26–VII–1986; 1 ♀, Mt. Kuantao, Nantou Hsien, 12–VI–1983, A. YAMASHITA leg.

This new species is closely allied to *P. exasperata* FAIRMAIRE, 1893, but can be separated from the latter by the following points: dorsal surface rather shining in male, opaque in female, and bearing short, but much more evident, suberect setae and rather long hairs on pronotum and elytra; different coloration of the body.

## 要約

小林裕和: 台湾産ヒラタハナムグリとハナムグリの4新種. —— 台湾から *Valgus* 属および *Dasyvalgus* 属の各1種, ならびに *Protaetia* 属の1種, 1亜種を新たに記載した. このうちで, *Valgus* 属は, 台湾から初めての記録となる.

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# The Genus *Penichrolucanus* (Coleoptera, Lucanidae) New to the Fauna of Borneo[1]

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The genus *Penichrolucanus* is a small-sized lucanid beetle having peculiar characters, and is considered to be termitophilous (RATCLIFFE, 1984; BARTOLOZZI, 1989). Six species are currently recognized for this genus; *P. copricephalus* DEYROLLE, 1863, from the Malay Peninsula, *P. elongatus* ARROW, 1935, also from the Malay Peninsula, *P. nicobaricus* ARROW, 1935, from the Nicobar and Andaman Islands, *P. sumatrensis* ARROW, 1935, from Sumatra Island, *P. leveri* ARROW, 1938, from Guadalcanal Island of the Solomon Group and *P. cryptonychus* (ZHANG, 1988) from Tibet (ARAYA *et al.*, 1993). On the recent survey, we collected three specimens of the beetles of this genus from Sabah and Sarawak, Malaysia, which are identified with *P. copricephalus*. In addition to these, we had an opportunity to examine one female specimen of *P. copricephalus* collected from southwestern Karimantan, Borneo. Here we will report them as the new records of the genus *Penichrolucanus* from Borneo. The collecting data of the specimens are as follows.

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